12AX7-A

High-Mu Twin Triode

9-PIN MINIATURE TYPE

For High-Fidelity Audio-Amplifier Applications Critical as to Noise and Hum

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	*Series*	*Parallel*	
Voltage (AC or DC)	12.6	6.3 ± 10%	volts
Current.	0.15 ± 6%	0.3	amp

Direct Interelectrode Capacitances (Approx.):▲

	Unit No. 1	*Unit No. 2*	
Grid to plate.	1.7	1.7	μμf
Grid to cathode and heater . .	1.6	1.6	μμf
Plate to cathode and heater. .	0.46	0.34	μμf

Equivalent Noise and Hum Voltage (Referenced to Grid, Each Unit):

Average Value (RMS). . . . . 1.8 μvolts

Measured in "true rms" units under the following conditions: Heater volts (AC) = 6.3; center-tap of heater transformer connected to ground; plate supply volts (DC) = 250; plate load resistor (megohms) = 0.1; cathode resistor (ohms) = 2700; cathode bypass capacitor (μf) = 100; grid resistor (ohms) = 0; amplifier frequency range 25 to 10000 cps.

Characteristics, Class A_1 Amplifier (Each Unit):

Plate Voltage.	100	250	volts
Grid Voltage	−1	−2	volts
Amplification Factor	100	100	
Plate Resistance (Approx.)	80000	62500	ohms
Transconductance	1250	1600	μmhos
Plate Current.	0.5	1.2	ma

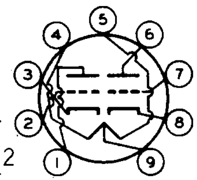
Mechanical:

Operating Position	Any
Maximum Overall Length	2-3/16"
Maximum Seated Length.	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip).	1-9/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline.	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No. E9-1)

12AX7-A

Basing Designation for BOTTOM VIEW 9A

Pin 1 - Plate of Unit No.2
Pin 2 - Grid of Unit No.2
Pin 3 - Cathode of Unit No.2
Pins 4 & 9 - Heater of Unit No.2
Pins 5 & 9 - Heater of Unit No.1



Pin 6 - Plate of Unit No.1
Pin 7 - Grid of Unit No.1
Pin 8 - Cathode of Unit No.1
Pin 9 - Heater Tap

AMPLIFIER — CLASS A_1

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	330	max.	volts
GRID VOLTAGE:			
Negative-bias value	55	max.	volts
Positive-bias value	0	max.	volts
PLATE DISSIPATION	1.2	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200●	max.	volts

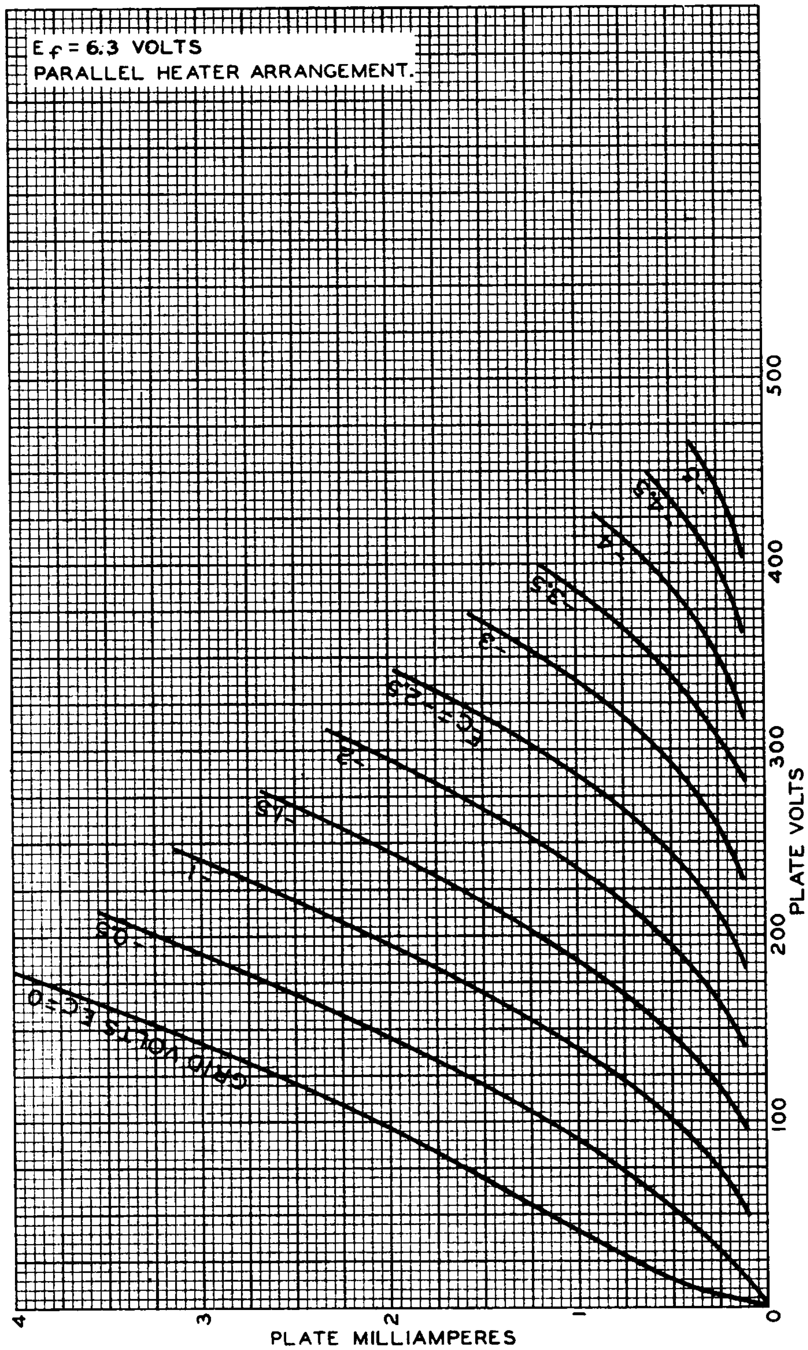
Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED-AMPLIFIER CHART No. 25* at front of this Section

▲ Without external shield.

● The dc component must not exceed 100 volts.

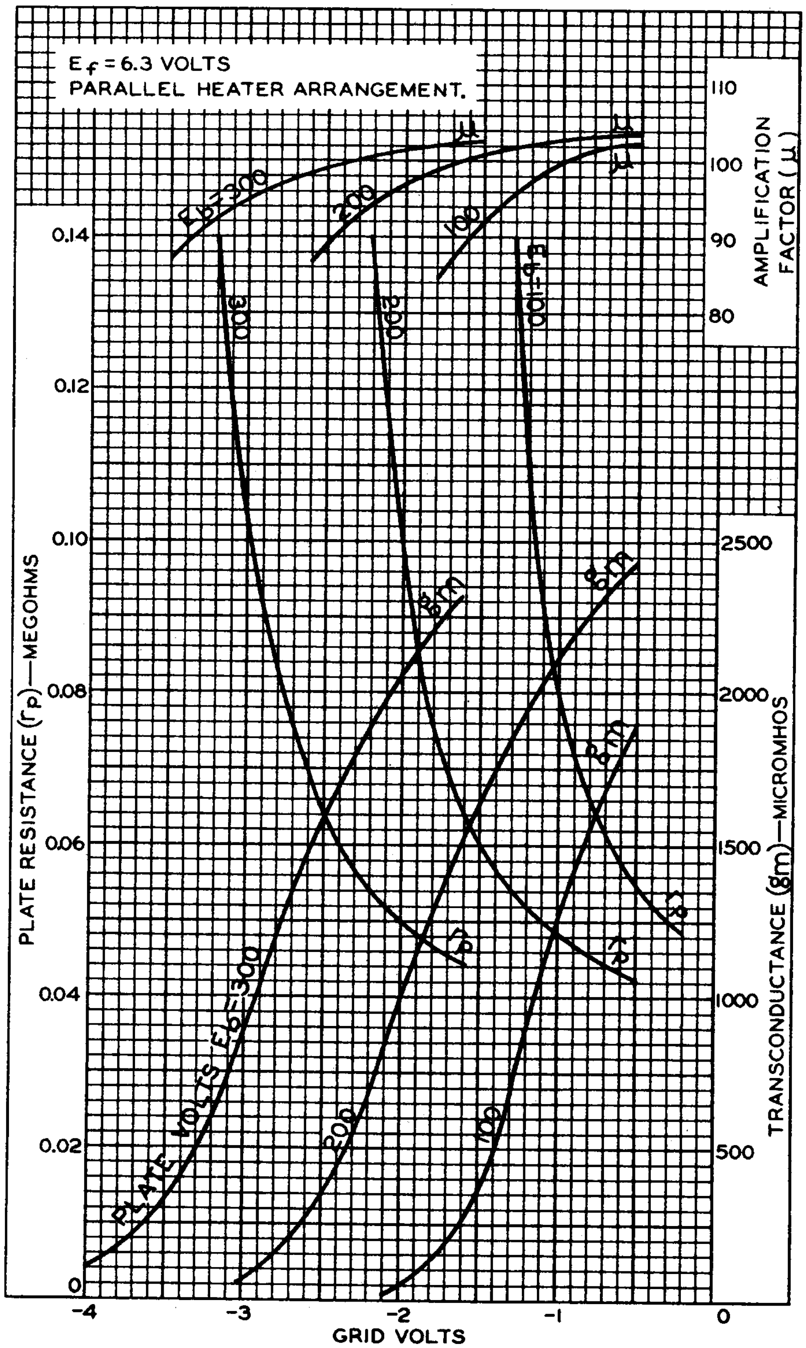
AVERAGE PLATE CHARACTERISTICS
Each Unit



92CM-6879

12AX7-A

AVERAGE CHARACTERISTICS
Each Unit



92CM-6880